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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,050	03/09/2007	Frederic Jean-Pierre Demole	06-299	5410

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EXAMINER	
BONZELL, PHILIP J	

ART UNIT	PAPER NUMBER
3644	

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05/01/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/578,050	DEMOLE, FREDERIC JEAN-PIERRE	
	Examiner	Art Unit	
	PHILIP J. BONZELL	3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 January 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15 and 18-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15 and 18-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 January 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 15, 18-21, 23-25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Demole (WO01/62594) in view of Ongaro (US Patent #3088698).

a. For Claims 15, 23, and 24, figure 1 and claim 1 of Demole '594 disclose "a payload launching system comprising a cable (17), an end portion of which is adapted for releasably coupling with a load (11), a rotary member (12) adapted for rotation on an axis (13) and drive means (15) for disengageably engaging with the rotary member (12) so as to rotate the rotary member (12) on the axis (13), and the rotary member (12) is provided with a surface (16) for receiving a portion of the cable (17) remote from the load (11), and the surface (16) has a curved profile, the radial dimension of which increases progressively from the said axis (13) in an arcuate direction of the said axis (13), characterized in that there is provided means for engaging a portion of the said cable (17) remote from the load (11) with the said rotary member (12), while the said rotary member (12) is rotating, so that the portion of the said cable (17) remote from the load (11) locates on the said surface (16) while an end portion of the said cable (17)

remote from the load (11) is restrained at a location on the rotary member (12) adjacent to a centre of the rotary member (12)". While figure 2 of Demole '594 discloses a single point at the front of the vehicle where the cable is attached to pull on the load, it is silent about that load being a rocket and having multiple points at which it is pulling on the rocket. Figures 1, 4, and 6 of Ongaro '698 teach a rocket launching system wherein the load from the cable is spread out over multiple areas over the rocket (2) through a transferring means (26) which are located at each of the support sections (6) (column 2, lines 55-57). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Demole '594 so as to launch a rocket with a cable system and distribute the pull of the cable over multiple points on the rocket, as taught in Ongaro '698, in order to launch a rocket vertically while reducing the single point stress loads on the rocket due to launch.

b. For Claims 18-20, Demole '594 is silent about the transferring means transferring the force to a point low on the spacecraft; however, figure 4 of Ongaro '698 teaches transferring the force near the bottom of the rocket which would be after the first and second stage as well as the payload. Therefore, it would have been obvious to someone of ordinary skill in the art at the time of the invention to modify Demote '594 with the transferring mean position of Ongaro '698 in order to predictably reduce stress on the rocket near the most critical portion of the rocket--the payload.

c. For Claim 21, Demole ‘594 is silent about means to disconnect the transferring means (26) from the cable; however, figures 4 and 7 of Ongaro ‘698 teach wheels (36) on the cable (22) that would come off at the end of the cable. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Demole '594 with the disconnecting means of Ongaro '698 in order to release the transferring means from the cable so that the launching means predictably would not be destroyed if the transferring means remained connected to the rocket.

d. For Claims 25, and 27, Demole ‘594 is silent about means for disconnecting the cable from the transferring means; however, figure 4 of Ongaro ‘698 teaches the transferring means (26) is not permanently connected to the rocket (6) and therefore can and will disconnect once the rocket is launched. Therefore, it would have been obvious to someone of ordinary skill in the art at the time of the invention to modify Demole ‘594 with the transferring means of Ongaro ‘698 in order to allow the rocket to cleanly fly away.

2. Claims 22, 26, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Demole (WO01/062594) in view of Ongaro (US Patent #3088698) as applied to claim 15 above, and further in view of Lee Jr. et al. (US Patent #2941764).

e. For Claims 22 and 26, Demole ‘594 and Ongaro ‘698 are silent about the use of explosives to disconnect the transferring means; however, figure 1 of Lee Jr. et al. ‘764 teaches explosive bolts (33) that disconnect the parts of the rocket

(10). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Demole ‘594 and Ongaro '698 with the means for using explosive bolts taught by Lee Jr. et al., in order to predictably disconnect the transferring means using a safe and well-tested technology employed extensively in spacecraft and satellites.

f. For Claim 28, Demole ‘594 and Ongaro ‘698 are silent about the transferring means employing aerodynamic elements to move the transferring means away from the rocket; however, figure 1 of Lee ‘764 teaches that each of the parts is aerodynamic so they can efficiently move away from each other. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Demole ‘594 and Ongaro ‘698 with the aerodynamic structures taught in Lee '764 in order to predictably allow for easier movement of the components away from each other.

Response to Arguments

3. Applicant's arguments filed 1/20/2009 have been fully considered but they are not persuasive.

a. With respect to the first argument in the last paragraph on page 8 thru the second paragraph on page 9 that Ongaro ‘698 does not teach the lifting pads being attached, the Examiner respectfully disagrees as the Ongaro ‘698 reference was merely used to show that it is well known in the art to have the

pulling load of a cable spread out to multiply points on the payload in order to reduce point loads as well as to maintain a symmetric force on the payload.

b. With respect to the second argument in the first paragraph on page 10 that Ongaro '698 does not teach that the transferring means (26) is not permanently connected to the rocket, the Examiner respectfully disagrees with what is being claimed. Claim 21 states "means for disconnecting the cable from at least the transferring means"; the cable (22) can be disconnected from the transferring means (26) as it is held into place by two sections (27 and 29) that are "joined together in any suitable manner, such as by screw or nut assemblies" (column 2, lines 37-38) and therefore can be disconnected. There is no mention in the claim that the transferring means needs to be permanently connected to the rocket.

c. With respect to the third argument in the last paragraph on page 10 that Ongaro '698 does not disclose means for moving the transferring means away from the rocket, the Examiner respectfully disagrees. Ongaro '698 clearly teaches shock arresters (28) that stop the transferring means from continuing with the rocket and therefore move the transferring means away from the rocket.

d. With respect to the fourth argument in the first paragraph on page 11 that Lee '764 is not relevant, The Examiner respectfully disagrees. Lee '764 was used to teach that the use of explosive bolts is well-known as a separating means and could easily replace the connecting means of Ongaro '698 as it just teaches screws or nut assemblies.

e. With respect to the fifth argument in the second paragraph on page 11 that Lee '764 does not teach an aerodynamic structure, the Examiner respectfully disagrees. Figure 1 of Lee '764 clearly teaches that each of the parts is aerodynamically designed and is separated by explosive bolts.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHILIP J. BONZELL whose telephone number is (571)270-3663. The examiner can normally be reached on M-Th 8-5;.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mansen can be reached on (571)272-6608. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. J. B./
Examiner, Art Unit 3644

/Rob Swiatek/
Primary Examiner, Art Unit 3643
30 April 2009

pjb